

REMARKS

Applicants acknowledge receipt of an Office Action dated March 24, 2003. In this response Applicants have added claims 27-33. Support for these amendments may be found in the specification, *inter alia*, in the paragraph bridging pages 2 and 3, in the paragraph bridging pages 3 and 4, and in the discussion of figures 2-6 read in light of these figures. Following entry of these amendments, claims 1-32 are pending in the application. The PTO has withdrawn claims 7-14 from consideration as being drawn to non-elected subject matter, and Applicants have requested rejoinder of these claims in accordance with MPEP §821.04.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

Interview on August 19, 2003

Applicants acknowledge, with appreciation, the courtesies extended by Examiner Fortuna to Mr. Strain during a personal interview conducted on August 19, 2003. During the interview, Examiner Fortuna and Mr. Strain discussed the outstanding rejections under 35 U.S.C. §103(a) and the arguments filed by Applicants on March 29, 2002.

Rejections Under 35 U.S.C. §103

On page 2 of the Office Action, the PTO has rejected claims 1-6 and 15-26 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,562,827 to Schmidt *et al.* (hereafter "Schmidt") in view of U.S. 5,147,541 McDermott, Jr. *et al.* (hereafter "McDermott"). Applicants respectfully traverse this rejection for the reasons set forth below.

As an initial matter, as discussed during the above referenced interview, the current rejection does not appear to take into account the arguments set forth in the remarks filed by Applicants on March 29, 2002. Accordingly, Applicants respectfully request that the PTO fully consider these remarks and address each of the remarks in the next Office Action as required by MPEP §707.07(e).

Remarks filed March 29, 2002

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1974). See MPEP §2143.03.

Schmidt fails to teach or fairly suggest (1) a sheath comprising a polymer film, (2) at least a partial overlap of the polymer film or (3) fusion in the area of overlap as recited in independent claims 1, 21 and 26.

Applicants note that independent claim 1 recites “a sheath [that]...comprises polymer films...which, at least partially, overlap one another and have been fused to one another in the area of overlap.” Claim 21 recites “a sheath...formed from said polymer film wound spirally around said membrane element and said core such that said polymer film partially overlaps itself and such that said polymer film is fused together in the region of said overlap.” Claim 26 recites, “a sheath [that] comprises polymer films...which, at least partially overlap one another and have been fused to one another in the area of overlap.

In addition, Applicants note that the membrane/core assembly of Schmidt is surrounded by “a cord, fabric or laminated material” (see col. 2, lines 44-47). Although the detailed description provides further discussion of the cord (see e.g. drawings in Schmidt et al.), it remains unclear what a “laminated material” might be. There is no further explanation of “laminated material” in Schmidt such that it would be unclear to one skilled in the art what a “laminated material” encompasses. Schmidt does not clearly disclose a comprising polymer film(s), partial overlap of the polymer film(s), or fusion of the overlap of the polymer film(s)

McDermott fails to resolve this deficiency in Schmidt. Specifically, McDermott nowhere teaches or fairly suggests (1) a sheath comprising or formed from a polymer film, (2) a partial overlap of the polymer film or (3) fusion in the area of overlap as in independent claims 1, 21 and 26.

McDermott is not concerned with stabilizing a membrane assembly but with the design and setup of the membrane itself. Therefore, when McDermott mentions “fusing”, it is the fusing of a pleated and reinforced membrane near the core, and not the fusing of

anything that surrounds the wound membrane assembly such as the recited sheath in the present invention (see the drawings in McDermott; specifically Fig. 2). Thus the PTO's reference to "fusing the membrane" is not understood. The claimed invention is directed to fusing the polymer film sheath that surrounds the membrane, not fusing of the membrane itself.

McDermott is not concerned about the stability of the wound membrane let alone about any problems with respect to the stability of the membrane assembly.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection of claims 1-6 and 15-21 under §103(a). Therefore McDermott does not provide any motivation to the person of ordinary skill in the art concerning improving the outer sheath around the membrane. The combination of Schmidt and McDermott does not lead to the present invention, and cannot render it unpatentable.

Further Remarks

As discussed during the above referenced interview, the cord of Schmidt abuts the adjacent windings but *does not overlap* the adjacent windings. Thus, even when the cord is melted, as discussed in col. 2 of Schmidt, the resulting structure is not the same as the presently claimed overlapping structure. The present specification, at pages 2-4, discusses the advantages of the presently claimed structure. These advantages include, for example, (1) very high mechanical stability which is comparable with that of hard GRP shells, (2) no detachment of parts of the sheath material on contact with solvents and (3) reliable operation in contact with relatively concentrated acids and alkalis, even when combined with high temperature. Accordingly, Applicants submit that none of the cited references, taken either individually or in fair combination, teach or properly suggest the embodiments of the present invention set forth in either independent claim 1 or independent claim 21.

If an independent claim is nonobvious under §103, then any claim depending therefrom is nonobvious. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988). See MPEP §2143.03. Thus, Applicants submit that claims 2-6, 15-20 and 22-26, which ultimately depend from either independent claim 1 or independent claim 21, are also non-obvious.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection under §103.

Newly Added Claims

In this response, Applicants have added claims 27-33.

With regard to claims 27-29, Applicants submit that none of the cited references, taken either individually or in combination, teach or properly suggest "a sheath which surrounds the membrane element and the core, wherein the sheath comprises a polymer film wound around the membrane element and the core at an oblique angle relative to a longitudinal axis of the membrane element and which, at least partially, overlaps itself and is fused to itself in the area of overlap" as recited in claim 27.

With regard to claim 30, Applicants submit that none of the cited references, taken either individually or in combination, teach or properly suggest that "the sheath at least partially overlaps itself and is fused to itself at an oblique angle relative to the longitudinal axis of the membrane element."

With regard to claim 31, Applicants submit that none of the cited references, taken either individually or in combination, teach or properly suggest "a membrane assembly...wherein a width of the polymer film is substantially less than a width of the membrane element as measured along the longitudinal axis of the membrane element" as recited in claim 31.

With regard to claim 32, Applicants submit that none of the cited references, taken either individually or in combination, teach or properly suggest "a sheath which surrounds said membrane element and said core, wherein said sheath comprises a polymer film wound helically around the membrane element and the core and which, at least partially, helically overlaps itself and is fused to itself in the area of overlap" within the context of a "membrane assembly for filtration of compositions comprising concentrated acids and alkalis at temperatures up to 100°C " as recited in claim 32.

Finally, with regard to claim 33, Applicants submit that none of the cited reference, taken either individually or in combination, teach or properly suggest "a sheath which

surrounds the membrane element and the core, wherein the sheath comprises a polymer film wound helically around the membrane element and the core and which, at least partially, helically overlaps itself and is fused to itself in the area of overlap and wherein portions of the sheath do not detach on contact with solvents".

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By P.D.S.

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